

## RT Communications- Wyoming 5 Year Service Quality Improvement Plan

### Introduction

RT Communications, Inc. is an ETC sharing a single study area (512251), with Range Telephone Cooperative-Wyoming. The RT portion of the study area is 9,890 square miles in eastern & central Wyoming served by 15 wire centers with 11,330 current access lines. RT has the following wire centers:

<u>Wire Center</u>	<u>Sq. Miles</u>	<u>Access Lines</u>
Albin	410	198
Burns	256	421
Carpenter	172	185
Gas Hills	321	3
Hulett	1,172	596
Jeffery City	566	63
Kaycee	979	359
Midwest	723	276
Moorcroft	480	699
Newcastle	1,784	2,386
Pine Bluffs	201	603
Shoshoni	979	364
Thermopolis	562	1,697
Upton	669	559
Worland	<u>616</u>	<u>2,921</u>
Total	9,890	11,330

### Current USAC Information

During 2013 RT Communications received the following amounts in support payments broken down as follows:

High cost loop	1,995,001
ICLS	3,011,544
CAF	<u>676,710</u>
Total	5,683,255

This 5 year improvement plan is a section of the Company's 2014 Annual Report. It is in compliance with # 54.313(a)(1) adopted in the FCC USF/ICC Transformation Order (11-161).

RT has developed its improvement plan, concentrating on the delivery and continuation of a robust network which will provide, at a minimum, the federally required voice and broadband connectivity as stipulated by regulatory rule.

RT advises that this improvement plan has been carefully crafted, matching measured network deployment, improvement and quality service levels with known financial implications of the Transformation Order upon the Company's cash flows. This would include the Company's ability to borrow needed funds. The uncertainty of such cash flows being received in the outer years as a result of current and potential regulatory action on rate of return carriers has resulted in the Company taking a balanced yet realistic approach.

RT will reevaluate this plan on an annual basis. Action, however, may also be taken abruptly on the presented plan for both current and outer years in the event of evolving regulatory conditions, changes in technology or vendor support, or available financing. All adjustments to the improvement plan in this document will be reflected and explained in subsequent annual reports.

# **5 Year Service Quality Improvement Plan by Year**

## **Plan Year 2015**

### **WORLAND, WYOMING EXCHANGE**

#### **CENTRAL OFFICE DC-AC POWER INVERTER UPGRADE**

This project includes installation of a new DC-AC power inverter system. The new installed inverter system will replace and upgrade our current inverters that are less than adequate for future needs. Special concerns in this project include keeping our local area network operating and keeping our on-site servers and data switches operating on inverted AC power. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

### **WORLAND, WYOMING EXCHANGE**

#### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and dual battery strings. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is less than adequate for future needs. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds. Expected completion of this project is within this calendar year.

### **WORLAND, WYOMING EXCHANGE**

#### **CENTRAL OFFICE SERVER REPLACEMENT**

In 2015 RT Communications plans to replace our current file system server and network management server. The servers that our LAN management and Access Carrier management systems currently operate on have been recommended for replacement by manufacture and vendor representatives. We plan to purchase two new servers and a Software Asset Management package. This purchase will allow us to virtualize server function for several current systems and replace functions of multiple servers. Once functions are moved we would be able to retire several additional servers with no need to replace them.

### **WORLAND, WYOMING EXCHANGE**

#### **BIG HORN REMOTE ACCESS CARRIER SITE**

The planned method of investment for this project is fiber optic transport to the existing node (FTTN) and equipment upgrade of the node electronics. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 2.3 route miles of fiber optic cable. Both aerial and buried cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Peak and valley type terrain eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include crossing a main BNSF Railroad line and a river crossing of the Big Horn River. Project planned coverage area includes an estimated 5 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is included in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within calendar year 2015.

### **THERMOPOLIS, WYOMING EXCHANGE**

#### **FREMONT AND SUNSET SERVING AREAS CONSTRUCTION**

This project is fiber optic to the home/business (FTTH). This is phase four of fiber to the home construction in this exchange with phase one having been constructed in 2009. Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 36 route miles of fiber optic cable. Buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 2.5 square mile serving area. Voice switching for this area is currently done using our packet voice switch and voice service will remain using that after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Wyoming Highway Department Maintenance Shop and Regional Engineering Office. This project area is included in our current RUS loan design. Funding for the project is planned to be



from the current RUS loan. Expected construction completion of this project is within this calendar year but could be extended to 2016 if conditions require. Service cut over of this project is expected to be completed in calendar year 2016.

#### **NEWCASTLE, WYOMING EXCHANGE**

##### **NEWCASTLE BASE RATE ELECTRONICS UPGRADE**

The planned method of investment is Central Office access electronics upgrade. Current copper cables will be retained in project design. The project will include purchase and installation of all new access electronics to provide voice and broadband service in the base rate area. Project planned coverage area includes an estimated 4 square mile serving area. Requirement of design decision is that when complete all subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. Current anchor institutions in the planned serving area interface are the Weston County Courthouse and Newcastle City Police Department. This project area is in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

#### **NEWCASTLE, WYOMING EXCHANGE**

##### **DEWEY ROAD AND CUSTER HIGHLANDS ACCESS CARRIER SITES**

The planned method of investment for this project is fiber optic transport to the existing node (FTTN) and equipment upgrade of the node electronics. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 7.7 route miles of fiber optic cable. There are 2.3 route miles needed to connect to a new access carrier site on Dewey Road and an additional 2.9 route miles to the current Custer Highlands access carrier site. In addition, another 2.5 route miles of fiber optic cable will be constructed to a new access carrier site to provide service to the US Forest Service TEE PEE Camp Site. Buried cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Peak and valley type terrain eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation likely. Currently there is no broadband capability or service offering in these access carrier areas. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project all access electronics in the project area will be upgraded to offer VDSL2 broadband and VoIP service. Current anchor institutions in the serving areas are Elk Mountain School (South Dakota) and US Forest Service TEE PEE Camp Site. This project area is included in our current RUS loan design. Funding for the project is planned to be from the current RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **MOORCROFT, WYOMING EXCHANGE**

##### **MOORCROFT BASE RATE ELECTRONICS UPGRADE**

The planned method of investment is Central Office access electronics upgrade. Current copper cables will be retained in project design. The project will include purchase and installation of all new access electronics to provide voice and broadband service in the base rate area. Project planned coverage area includes an estimated 4 square mile serving area. This area has an estimated total of 867 subscriber locations with estimated 222 current broadband customers included in that number. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. Current anchor institutions in the planned serving area interface are the Moorcroft Medical Clinic and Moorcroft City Police Department. This project area is in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

#### **ALBIN, WYOMING EXCHANGE**

##### **KIRKBRIDE RANCH AREA**

The planned method of investment for this project is wireless Point-to-Point transport and the establishment of new access carrier sites for broadband service delivery. Current copper cable service delivery to the subscribers will be retained and reinforced where needed. The project includes new placement of approximately 6 new wireless transport sites and 1 route mile of copper cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include fiber to the home (FTTH) and fiber to the node (FTTN) designs. Distance between subscriber locations and cost of placement proved wireless transport and copper to the home service delivery to be the best investment. Special concerns for new placement in this project include securing new property easement for new wireless site locations. Project planned coverage area includes an estimated 54 square mile serving area. This serving area has 13 subscribers with 0 current broadband customers included in that number. Currently there is no broadband capability or service offering in this area. Voice switching for this area is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project all access electronics in the project area will be upgraded to offer VDSL2 broadband and VoIP voice service. This project area is not included in our current RUS loan design. Funding for the project is planned to be from general funds at this time. Expected construction completion and service cut over of this project is within this calendar year.



## **GAS HILLS, WYOMING EXCHANGE**

### **CENTRAL OFFICE RETIREMENT**

The planned method of investment for this project is the establishment of a new access carrier site to provide service to all subscribers in this exchange and allow us to retire our current central office building. Current copper cable service delivery to the subscribers will be retained. The project includes placement of a new electronics site and local power service. Other investment methods considered for this project include wireless Point-to-Multi Point service delivery to the home. Peak and valley type terrain eliminated the use of wireless Point-to-Multi Point and proved utilizing current fiber optic cable for transport to a new local access carrier site to be the best investment. Project planned coverage area includes an estimated 15 square mile serving area. This serving area interface currently has 5 subscribers with 1 current broadband customers included in that number. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the new access electronics site will be placed to offer VDSL2 broadband and VoIP voice service. This project area is not included in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

## **UPTON, WYOMING EXCHANGE**

### **UPTON BASE RATE ELECTRONICS UPGRADE**

The planned method of investment is Central Office access electronics upgrade. Current copper cables will be retained in project design. The project will include purchase and installation of all new access electronics to provide voice and broadband service in the base rate area. Project planned coverage area includes an estimated 2 square mile serving area. Requirement of design decision is that when complete all subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. Current anchor institutions in the planned serving area interface are the Upton Medical Clinic and Upton City Police Department. This project area is in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

## **HULETT, WYOMING EXCHANGE**

### **HULETT BASE RATE ELECTRONICS UPGRADE**

The planned method of investment is Central Office access electronics upgrade. Current copper cables will be retained in project design. The project will include purchase and installation of all new access electronics to provide voice and broadband service in the base rate area. Project planned coverage area includes an estimated 2 square mile serving area. Requirement of design decision is that when complete all subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. Current anchor institution in the planned serving area interface is the Hulett Wyoming Highway Department Office. This project area is not in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

## **OSAGE, WYOMING EXCHANGE**

### **CENTRAL OFFICE RETIREMENT**

The planned method of investment for this project is the establishment of a new access carrier site to provide service to all subscribers in this exchange and allow us to retire our current central office building. Current copper cable service delivery to the subscribers will be retained. The project includes placement of a new electronics cabinet at the current Central Office Site. Other investment methods considered for this project include wireless Point-to-Multi Point service delivery to the home. Existing copper cable investment and capacity proved utilizing current fiber optic cable for transport to a new local access carrier site to be the best investment. Project planned coverage area includes an estimated 7 square mile serving area. When complete subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project the new access electronics site will be placed to offer VDSL2 broadband and VoIP voice service. This project area is not included in our current RUS loan design. Funding for the project is planned to be from general funds at this time. Expected construction completion and service cut over of this project is within this calendar year.

## **RT COMMUNICATIONS-ALL EXCHANGES**

### **TECHNICIAN SERVICE TRUCK VEHICLES**

In 2015 RT Communications plans to replace two ¾ ton gasoline engine service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to RT Communications service area being



very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks.

## **Plan Year 2016**

---

### **WORLAND, WYOMING EXCHANGE UPGRADE AFC ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and multiple sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include wireless Point-to-Multi Point and fiber optic service delivery to the home. Peak and valley type terrain eliminated the use of wireless Point-to-Multi Point and distance between subscribers proved fiber to the node (FTTN) the best investment. Project planned coverage area includes an estimated 45 square mile serving area. When complete subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is included in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

### **WORLAND, WYOMING EXCHANGE CENTRAL OFFICE AIR HANDLING EQUIPMENT**

We have been advised by our current air system maintenance contractor for a couple of years now, as well as outside contractors asked to bid on our maintenance contract, that our Main Business Office and Central Office air handling systems will need to be replaced in the near future. The current pneumatic control system is outdated. It is difficult to find parts for or anyone with the knowledge of how to maintain it. The Worland CO AC Unit is in the closet outside the CO and is insufficient to keep the CO cool and humidified. The air handling systems requirements are constantly changing and we have seen an increase in the burden on this system. Its maintenance cost is higher than our other systems. The backup system is a water fed AC unit in the mailroom. Major maintenance or replacement will require removal of a wall. With the changes in equipment in the CO it would be an optimum time to replace it with a 10 ton unit possibly located on the roof.

### **THERMOPOLIS, WYOMING EXCHANGE FREMONT AND SUNSET SERVING AREAS SERVICE CUT OVER**

This line item is service cut over and part two of the construction project of the same name shown in year 2015. This will be phase four of fiber to the home construction in this exchange with phase one having been constructed in 2009. The planned method of investment for this project is fiber optic to the home/business (FTTH). Current copper cables will not be retained after project completion and service cut over. The construction portion of project included new placement of approximately 36 route miles of fiber optic cable and was scheduled to be completed in 2016. Project planned coverage area includes an estimated 2.5 square mile serving area. These serving area interfaces have an estimated total of 400 subscriber locations with estimated 289 current broadband customers included in that number. Voice switching for this area is currently done using our packet voice switch and voice service will remain using that after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Wyoming Highway Department Maintenance Shop and Regional Engineering Office. This project area is included in our current RUS loan design. Funding for the project is planned to be from the current RUS loan. Expected service cut over completion of this project is within this calendar year.

### **THERMOPOLIS, WYOMING EXCHANGE CENTRAL OFFICE HEATING AND COOLING EQUIPMENT**

The Thermopolis Central Office cooling unit no longer sufficiently maintains the temperature and humidity in some parts of the office. A new wall was constructed during a remodel to reduce the size of the equipment room and thus reduced the cost of the fire suppression system we were installing. The result of this remodel placed the smaller secondary AC unit into the same zone as the primary system for cooling the equipment. The main system cools the front office and the back office but no longer cools the equipment room sufficiently. This smaller system is running too often and will eventually fail. It has been recommended that we place a 10 Ton system in the Central Office as the primary and let the smaller unit be the backup. The heating units are older Lenox systems that are becoming harder to maintain and support. Replacement has been recommended.



## **NEWCASTLE, WYOMING EXCHANGE**

### **CENTRAL OFFICE SERVING AREA CONSTRUCTION**

The planned method of investment for this project is fiber optic to the home/business (FTTH). This will be phase four of fiber to the home construction in this exchange with phase one having been constructed in 2006. Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 26 route miles of fiber optic cable. Aerial, buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 1 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Weston County Courthouse & Sheriff's Office also the City Police Department. This project area is included in our current RUS loan design. Funding for the project is planned to be from the current RUS loan. Expected construction completion of this project is within this calendar year. Service cut over of this project is expected to be completed in this calendar year but could extend into year 2017 for full completion.

## **HULETT, WYOMING EXCHANGE**

### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

## **HULETT, WYOMING EXCHANGE**

### **RIDGE RADIO REPLACEMENT**

The planned method of investment for this project is a new public spectrum radio unit replacement/upgrade for additional capacity. This radio link connects subscriber access carrier sites across mountainous terrain to provide voice and data service. . The project includes new placement of radio electronics at two existing sites and access electronics upgrades at three existing sites. Fiber optics cable placement to replace the existing radio link has been considered and is cost prohibitive at this time. The fiber optic cable placement will be considered again in future budget years. Special concerns for new placement in this project include some difficult construction areas with rock excavation likely. The current coverage area of the radio link connected access carrier sites includes an estimated 86 square mile serving area. Currently there is no broadband capability or service offering in these access carrier areas. When complete these 32 subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload dependent on distance from serving area interface. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project all access electronics in the project area will be upgraded to offer VDSL2 broadband and VoIP service. This project area is not included in our current RUS loan design. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

## **HULETT, WYOMING EXCHANGE**

### **HULETT NORTH END CONSTRUCTION**

The planned method of investment for this project is fiber optic to the home/business (FTTH). Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 9 route miles of fiber optic cable. Aerial, buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 2 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Hulett Airport and Hulett Medical Clinic. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.



## **RT COMMUNICATIONS-ALL EXCHANGES**

### **TECHNICIAN SERVICE TRUCK VEHICLES**

In 2016 RT Communications plans to replace two 1 ton diesel engine dual wheel construction service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to RT Communications service area being very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks.

## **Plan Year 2017**

### **NEWCASTLE, WYOMING EXCHANGE**

#### **NEWCASTLE WEST END CONSTRUCTION**

The planned method of investment for this project is fiber optic to the home/business (FTTH). This will be phase five of fiber to the home construction in this exchange with phase one having been constructed in 2006. Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 31 route miles of fiber optic cable. Aerial, buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 3 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Weston County Road & Bridge Office and Weston County Fire Department. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion of this project is within this calendar year. Service cut over of this project is expected to be completed in this calendar year but could extend into year 2018 for full completion.

### **KAYCEE, WYOMING EXCHANGE**

#### **KAYCEE BASE RATE CONSTRUCTION**

The planned method of investment is not decided at this time with broadband service being the goal. Current copper cables may or may not be retained in project design. The project will include an estimated 16 route miles of fiber optic cable if fiber to the home service is used and/or an estimated 4 new wireless sites if wireless delivery to the home is used. Aerial and buried cable placement methods are being considered for this project as well as the establishment of new wireless site locations. Investment methods being considered for this project include wireless Point-to-Multi Point service to the home as well as fiber to the node (FTTN) or fiber to the home (FTTH) type service delivery. Consideration is being given to cost, performance, and reliability in the decisions planning the investment and service enhancement in this area. We expect some advancement in all technology types in the coming years that will allow us to proceed with the best investment for service delivery. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible and possible land and easement issues if establishing new wireless sites. Project planned coverage area includes an estimated 4 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institution in the planned serving area interface is the Johnson County Medical Clinic. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

### **SHOSHONI, WYOMING EXCHANGE**

#### **CENTRAL OFFICE HVAC EQUIPMENT**

We have been advised by our current air system maintenance contractor to plan for replacement of the current heating and cooling equipment in the Shoshoni Central Office. The current data type cooling system is located inside the building and limited in size because of that. Recent expansions of the Central Office transport and access equipment has added more cooling demand on the current unit making it clear we must plan for this upgrade. The recommended replacement would be a roof mount unit with some duct work additions to correct the air flow inside the building.



## **MIDWEST, WYOMING EXCHANGE**

### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has exceeded its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds. Expected completion of this project is within this calendar year.

## **RT COMMUNICATIONS-ALL EXCHANGES**

### **TECHNICIAN SERVICE TRUCK VEHICLES**

In 2017 RT Communications plans to replace two ¾ ton gasoline engine service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to RT Communications service area being very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks.

## **Plan Year 2018**

## **MOORCROFT, WYOMING EXCHANGE**

### **BASE RATE AREA CONSTRUCTION**

The planned method of investment for this project is fiber optic to the home/business (FTTH). Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 13 route miles of fiber optic cable. Aerial, buried and underground cable placement methods are being considered for this project. At this time we are evaluating working with the local power company to utilize the existing power poles for all aerial cable placements. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Not currently having any tower locations and bordering areas with existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 9 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Crook County Medical Clinic, Moorcroft Library and Moorcroft Police Department. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion of this project is within this calendar year. Service cut over of this project is expected to be completed in this calendar year but could extend into year 2019 for full completion.

## **MOORCROFT, WYOMING EXCHANGE**

### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

## **MOORCROFT, WYOMING EXCHANGE**

### **UPGRADE ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and possibly to add new sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include fiber to the home and as budget years continue that method may be chosen. Distance between subscribers proves fiber to the node (FTTN) the best investment until future budgeting can be done for fiber to the home. Project planned coverage area includes an estimated 360 square miles of serving areas. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.



## **CARPENTER, WYOMING EXCHANGE CENTRAL OFFICE RETIREMENT**

The planned method of investment for this project is the establishment of a new access carrier site to provide service to all subscribers in this exchange and allow us to retire our current central office building. Current copper cable service delivery to the subscribers will be retained. The project includes placement of a new electronics cabinet at the current Central Office Site. Other investment methods considered for this project include wireless Point-to-Multi Point service delivery to the home. Existing copper cable investment and capacity proved utilizing current fiber optic cable for transport to a new local access carrier site to be the best investment. Project planned coverage area includes an estimated 4 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the new access electronics site will be placed to offer VDSL2 broadband and VoIP voice service. This project area is not included in our current RUS loan design or planned for our future RUS loan. Funding for the project is planned to be from general funds. Expected construction completion and service cut over of this project is within this calendar year.

## **CARPENTER, WYOMING EXCHANGE CARPENTER WEST RE-ENFORCEMENT**

The planned method of investment for this project is fiber optic to the home/business (FTTH). Current fiber optic cables will be retained but current copper cables in this area will not be retained after project completion and service cut over. The project includes new placement of approximately 6 route miles of fiber optic cable. Buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some private easement construction areas. Project planned coverage area includes an estimated 7 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **CARPENTER, WYOMING EXCHANGE UPGRADE AFC ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and multiple sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include fiber to the home and as budget years continue that method may be chosen. Distance between subscribers proves fiber to the node (FTTN) the best investment until future budgeting can be done for fiber to the home. Project planned coverage area includes an estimated 25 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **BURNS, WYOMING EXCHANGE CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

## **BURNS, WYOMING EXCHANGE NORTH STUCKEY ROAD ACCESS CARRIER SITE**

The planned method of investment for this project is fiber optic transport to the node (FTTN) and to establish new access carrier electronics sites. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 13 route miles of fiber optic cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Existing fiber to the node service in the area and existing copper cable eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include some private easement construction areas. Project planned coverage area includes an estimated 29 square mile serving area. Voice switching for this site is currently done using our packet voice switch and



voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP voice service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **ALBIN, WYOMING EXCHANGE**

##### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

#### **WORLAND, WYOMING EXCHANGE**

##### **HANOVER REMOTE ACCESS CARRIER SITE**

The planned method of investment for this project is fiber optic transport to the existing node (FTTN) and equipment upgrade of the node electronics. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 4 route miles of fiber optic cable. Buried cable placement method is planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Lack of direct line of site and tree growth eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include narrow highway corridor work area may require private easement for construction. Project planned coverage area includes an estimated 12 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **JEFFREY CITY, WYOMING EXCHANGE**

##### **JEFFREY CITY WEST ROUTE AREA**

The planned method of investment for this project is wireless Point-to-Point transport and the establishment of new access carrier sites for broadband service delivery. Current copper cable service delivery to the subscribers will be retained and reinforced where needed. The project includes new placement of approximately 6 new wireless transport sites and 1 route mile of copper cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include fiber to the home (FTTH) and fiber to the node (FTTN) designs. Distance between subscriber locations and cost of placement proved wireless transport and copper to the home service delivery to be the best investment. Special concerns for new placement in this project include securing new property easement for new wireless site locations. Project planned coverage area includes an estimated 36 square mile serving area. Voice switching for this area is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project all access electronics in the project area will be upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **JEFFREY CITY, WYOMING EXCHANGE**

##### **JEFFREY CITY EAST & SOUTH ROUTE AREAS**

The planned method of investment for this project is wireless Point-to-Point transport and the establishment of new access carrier sites for broadband service delivery. Current copper cable service delivery to the subscribers will be retained and reinforced where needed. The project includes new placement of approximately 6 new wireless transport sites and 1 route mile of copper cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include fiber to the home (FTTH) and fiber to the node (FTTN) designs. Distance between subscriber locations and cost of placement proved wireless transport and copper to the home service delivery to be the best investment. Special concerns for new placement in this project include securing new property easement for new wireless site locations. Project planned coverage area includes an estimated 49 square mile serving area. Voice switching for this area is currently done using our packet voice switch and voice service will remain using that after project completion. As part of this project all access electronics in the project area will be upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.



## **HULETT, WYOMING EXCHANGE**

### **RIDGE TRANSPORT FIBER AND ACCESS CARRIER SITES**

The planned method of investment for this project is fiber optic transport to the node (FTTN) and to establish new access carrier electronics sites. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 13 route miles of fiber optic cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Peaks and valleys terrain and existing fiber to the node service in the area eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include some private easement construction areas and some rock excavation areas likely. The current coverage area of the radio link connected access carrier sites includes an estimated 86 square mile serving area. These access carrier serving area interfaces have an estimated 32 subscribers with 0 current broadband customer included in that number. Currently there is no broadband capability or service offering in these access carrier areas. When complete these 32 subscribers will have a current maximum available broadband service speed of 20MB download with 5MB upload dependent on distance from serving area interface. Voice switching for this site by this time will be done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **MIDWEST, WYOMING EXCHANGE**

### **MIDWEST BASE RATE CONSTRUCTION**

The planned method of investment is not decided at this time with broadband service being the goal. Current copper cables may or may not be retained in project design. The project will include an estimated 16 route miles of fiber optic cable if fiber to the home service is used and/or an estimated 4 new wireless sites if wireless delivery to the home is used. Aerial and buried cable placement methods are being considered for this project as well as the establishment of new wireless site locations. Investment methods being considered for this project include wireless Point-to-Multi Point service to the home as well as fiber to the node (FTTN) or fiber to the home (FTTH) type service delivery. Consideration is being given to cost, performance, and reliability in the decisions planning the investment and service enhancement in this area. We expect some advancement in all technology types in the coming years that will allow us to proceed with the best investment for service delivery. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible and possible land and easement issues if establishing new wireless sites. Project planned coverage area includes an estimated 4 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institution in the planned serving area interface is the Midwest School. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **RT COMMUNICATIONS-ALL EXCHANGES**

### **TECHNICIAN SERVICE TRUCK VEHICLES**

In 2018 RT Communications plans to replace two ¾ ton gasoline engine service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to RT Communications service area being very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks.

## **Plan Year 2019**

## **PINE BLUFFS, WYOMING EXCHANGE**

### **CENTRAL OFFICE SERVING AREA CONSTRUCTION**

The planned method of investment for this project is fiber optic to the home/business (FTTH). Current copper cables will not be retained after project completion and service cut over. The project includes new placement of approximately 36 route miles of fiber optic cable. Aerial, buried and underground cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Multi Point service to the home. Existing fiber to the home investment in this area makes continued fiber to the home the best investment. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible. Project planned coverage area includes an estimated 4 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. The current access electronics system serving these subscribers is in the Central Office and will be



replaced and upgraded as part of this project. Current anchor institutions in the planned serving area interfaces are the Pine Bluffs City Police Department and University of Wyoming Distance Learning Center. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion of this project is within this calendar year. Service cut over of this project is expected to be completed in this calendar year but could extend into year 2020 for full completion.

#### **UPTON, WYOMING EXCHANGE**

##### **CENTRAL OFFICE MAIN DC POWER BOARD AND BATTERY REPLACEMENT**

This project includes installation of a new DC power board and battery string. The new installed DC power system will replace and upgrade our current system that has reached its life expectancy and is manufacturer discontinued. Special concerns in this project include keeping reliable Central Office DC Power to maintain operation of all local transport and access services including 911 and EMS service. Funding for the project is planned to be from general funds at this time. Expected completion of this project is within this calendar year.

#### **UPTON, WYOMING EXCHANGE**

##### **NORTH FIBER ROUTE RE-ENFORCEMENT**

The planned method of investment for this project is fiber optic cable placement for additional transport capacity. Current fiber to the home service delivery to the subscribers will be retained. The project includes new placement of approximately 16 route miles of fiber optic cable. New buried and underground cable placement methods are planned on this project. Existing fiber cable on this route has reached exhaust and additional fiber capacity is required for transport and subscriber service delivery. Special concerns for new placement in this project include some difficult construction areas with rock excavation likely. The current coverage area of this fiber route includes an estimated 28 square mile serving area. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **SHOSHONI, WYOMING EXCHANGE**

##### **SHOSHONI BASE RATE CONSTRUCTION**

The planned method of investment is not decided at this time with broadband service being the goal. Current copper cables may or may not be retained in project design. The project will include an estimated 16 route miles of fiber optic cable if fiber to the home service is used and/or an estimated 4 new wireless sites if wireless delivery to the home is used. Aerial and buried cable placement methods are being considered for this project as well as the establishment of new wireless site locations. Investment methods being considered for this project include wireless Point-to-Multi Point service to the home as well as fiber to the node (FTTN) or fiber to the home (FTTH) type service delivery. Consideration is being given to cost, performance, and reliability in the decisions planning the investment and service enhancement in this area. We expect some advancement in all technology types in the coming years that will allow us to proceed with the best investment for service delivery. Special concerns for new placement in this project include some difficult construction areas with rock excavation possible and possible land and easement issues if establishing new wireless sites. Project planned coverage area includes an estimated 4 square mile serving area. Voice switching for this site is currently done using our packet voice switch and voice service will remain using that after project completion. The current access electronics system serving these subscribers is in the Central Office and will be replaced and upgraded as part of this project. Current anchor institution in the planned serving area interface is the Shoshoni School. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

#### **NEWCASTLE, WYOMING EXCHANGE**

##### **UPGRADE ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and possibly to add new sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include fiber to the home and as budget years continue that method may be chosen. Distance between subscribers proves fiber to the node (FTTN) the best investment until future budgeting can be done for fiber to the home. Project planned coverage area includes an estimated 360 square miles of serving areas. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.



## **HULETT, WYOMING EXCHANGE**

### **UPGRADE ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and possibly to add new sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include fiber to the home and as budget years continue that method may be chosen. Distance between subscribers proves fiber to the node (FTTN) the best investment until future budgeting can be done for fiber to the home. Project planned coverage area includes an estimated 360 square miles of serving areas. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **SHOSHONI, WYOMING EXCHANGE**

### **UPGRADE ACCESS CARRIER SITES**

The planned method of investment for this project is equipment upgrade of the current access carrier electronics and possibly to add new sites. Current copper cable service delivery to the subscribers will be retained. The project includes placement of new electronics equipment in existing access carrier sites. Other investment methods considered for this project include fiber to the home and as budget years continue that method may be chosen. Distance between subscribers proves fiber to the node (FTTN) the best investment until future budgeting can be done for fiber to the home. Project planned coverage area includes an estimated 96 square miles of serving areas. Voice switching for this site is currently done using our circuit voice switch and will move to our packet voice switch after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **NEWCASTLE, WYOMING EXCHANGE**

### **HIGHWAY 85 SOUTH TRANSPORT FIBER AND ACCESS CARRIER SITES**

The planned method of investment for this project is fiber optic transport to the node (FTTN) and to establish new access carrier electronics sites. Current copper cable service delivery to the subscribers will be retained. The project includes new placement of approximately 26 route miles of fiber optic cable. Buried cable placement methods are planned on this project. Other investment methods considered for this project include wireless Point-to-Point transport. Peaks and valleys terrain and existing fiber to the node service in the area eliminated the use of wireless Point-to-Point and proved fiber optic placement the best investment. Special concerns for new placement in this project include some private easement construction areas and some rock excavation areas likely. The current coverage area of the analog carrier systems includes an estimated 216 square mile serving area. Voice switching for this site by this time will be done using our packet voice switch and voice service will remain using that after project completion. As part of this project the current access electronics at the site will be replaced and upgraded to offer VDSL2 broadband and VoIP voice service. This project area is planned to be included in our next RUS loan design. Funding for the project is planned to be from the future RUS loan. Expected construction completion and service cut over of this project is within this calendar year.

## **RT COMMUNICATIONS-ALL EXCHANGES**

### **TECHNICIAN SERVICE TRUCK VEHICLES**

In 2019 RT Communications plans to replace two 1 ton diesel engine dual wheel construction service trucks. We currently have several high mileage service trucks and will decide on specific unit numbers for replacement as needed in the year. Due to RT Communications service area being very large the mileage put on each service truck yearly is very high. To ensure the safety of employees as well as ensuring serviceable vehicles, the company must regularly replace service trucks.